

be serviced. Service is limited to removal and replacement of the damper unit and the spring.

A special tool and additional items are needed for disassembly and assembly of the shock absorber. These tools are available from a Honda dealer and are as follows:

- Shock absorber compressor (Honda part No. 07959-3290001).
- Replacement kit (Honda part No. 07959-MB10000).

WARNING

Without the proper tool, this procedure can be dangerous. The spring can fly loose, causing injury. For a nominal bench fee, a dealer can do the job for you.

- Install the base onto the spring compressor.
- Install the shock absorber into a compression tool as shown in **Figure 43**.
- Install the replacement kit onto the upper portion of the shock absorber spring and the spring compressor. Tighten the clamp securing the kit.
- Compress the shock spring just enough to gain access to the spring seat and slide the spring seal out.
- Release the spring tension and remove the shock from the compression tool.
- Remove the spring guide and spring from the damper unit.
- Measure the spring free length (**Figure 44**). The spring must be replaced if it has sagged to the service limit listed in **Table 1** or less.
- Check the damper unit for leakage and make sure the damper rod is straight.

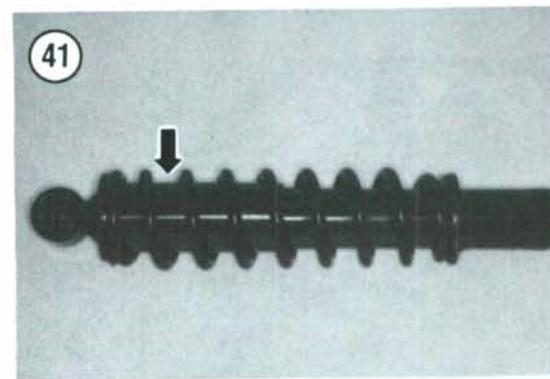
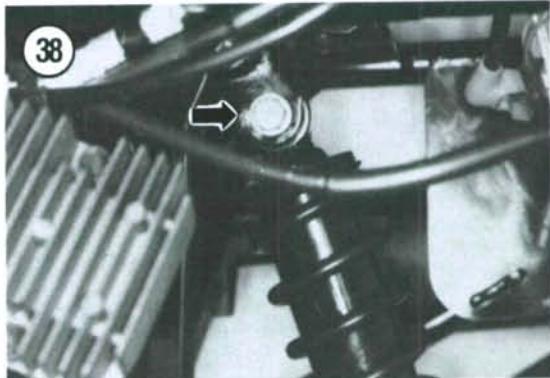
NOTE

The damper unit cannot be rebuilt; it must be replaced as a unit.

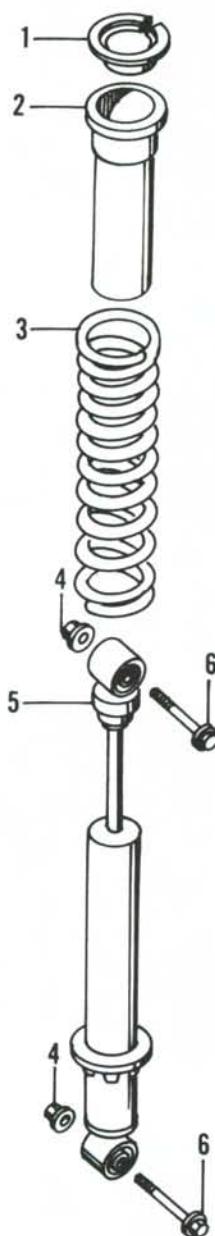
- Assembly is the reverse of these disassembly steps. Note the following:
 - Install the spring with the closer wound coils toward the top.
 - Make sure the spring seat is correctly located in the top of the spring.

SWING ARM

In time, the pivot bearings and the pivot bolt will wear and will have to be replaced. The condition of the bearings can greatly affect handling performance.



(42)

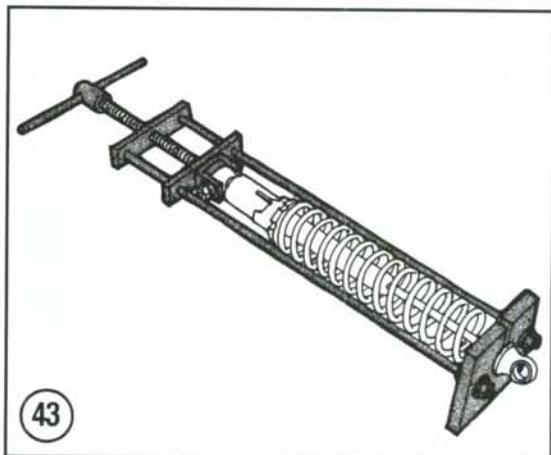
REAR SHOCK ABSORBER

1. Spring seat
2. Spring guide
3. Spring
4. Nut
5. Damper unit
6. Bolt

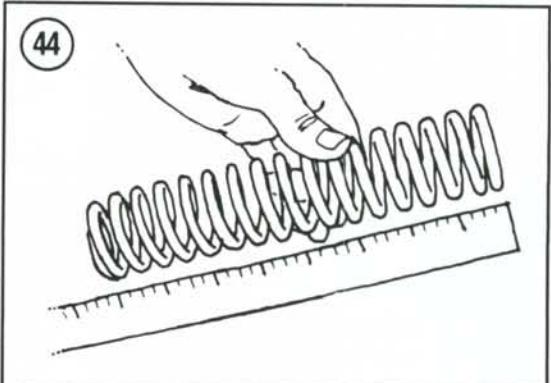
and if worn parts are not replaced they can produce erratic and dangerous handling. Common symptoms are wheel hop, pulling to one side during acceleration and pulling to the other side during braking.

Removal

1. Place the vehicle on level ground and set the parking brake.
2. Remove the rear fender as described in Chapter Thirteen.
3. Remove the rear wheels as described in this chapter.
4. Remove the rear axle, rear brake panel assembly and final drive unit as described in this chapter.
5. Grasp the rear end of the swing arm (A, **Figure 45**) and try to move it from side to side in a horizontal arc. There should be no noticeable side play. If play is evident and the pivot bolt nut is tightened correctly, the bearings should be replaced.



(43)



(44)

6. Remove the shock absorber (B, **Figure 45**) as described in this chapter.
7. Loosen the rubber boot front clamp bolt (A, **Figure 46**) on the swing arm end of the boot.
8. Remove the pivot bolt cap (B, **Figure 46**) on each side of the swing arm.

NOTE

*Snap-On offers a 3/8 in. drive 17 mm Allen wrench (part No. CPT-110A) (A, **Figure 47**). This tool is used for removal of the Volkswagen Beetle oil pan drain plug.*

9. Using a 17 mm Allen bolt wrench, remove the pivot bolt (**Figure 48**) from the left-hand side of the swing arm.

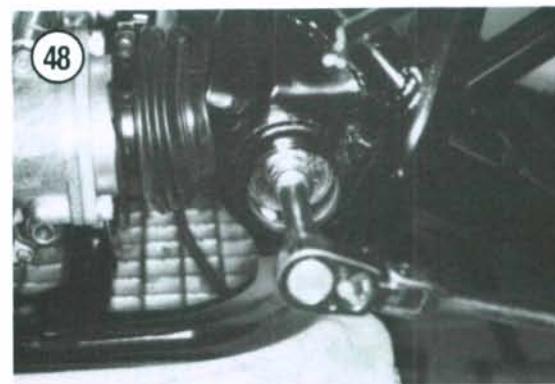
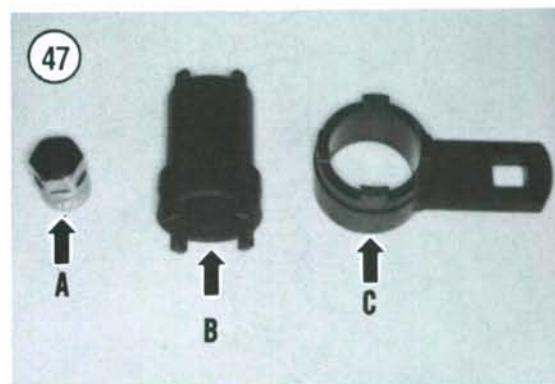
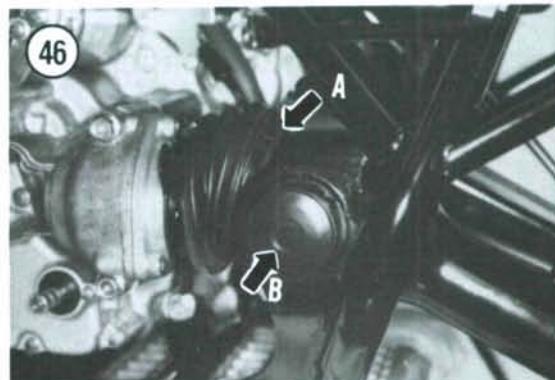
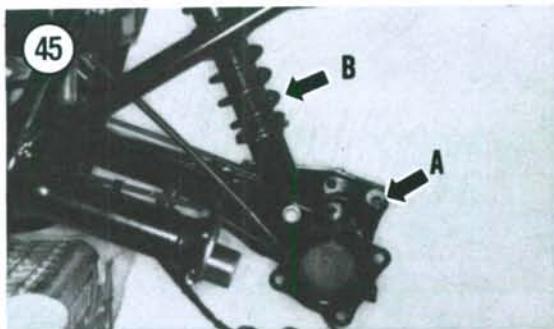
NOTE

*There are 2 different Honda locknut wrench adaptor tools available for removal of the pivot bolt locknut. The easiest one to use is (part No. 07716-0020203 or KS-4E-26X30) (B, **Figure 47**) or (part No. 07908-4690001 or KS-HBA-08-469) (C, **Figure 47**).*

10. Using a special Honda locknut wrench adaptor tool, loosen the pivot bolt locknut on the right-hand side.
11. Using a 17 mm Allen bolt wrench, remove the pivot bolt and locknut from the right-hand side (**Figure 49**).
12. Carefully pull the swing arm and drive shaft assembly toward the rear. Then move the swing arm slightly to the left-hand side of the frame and remove the swing arm.

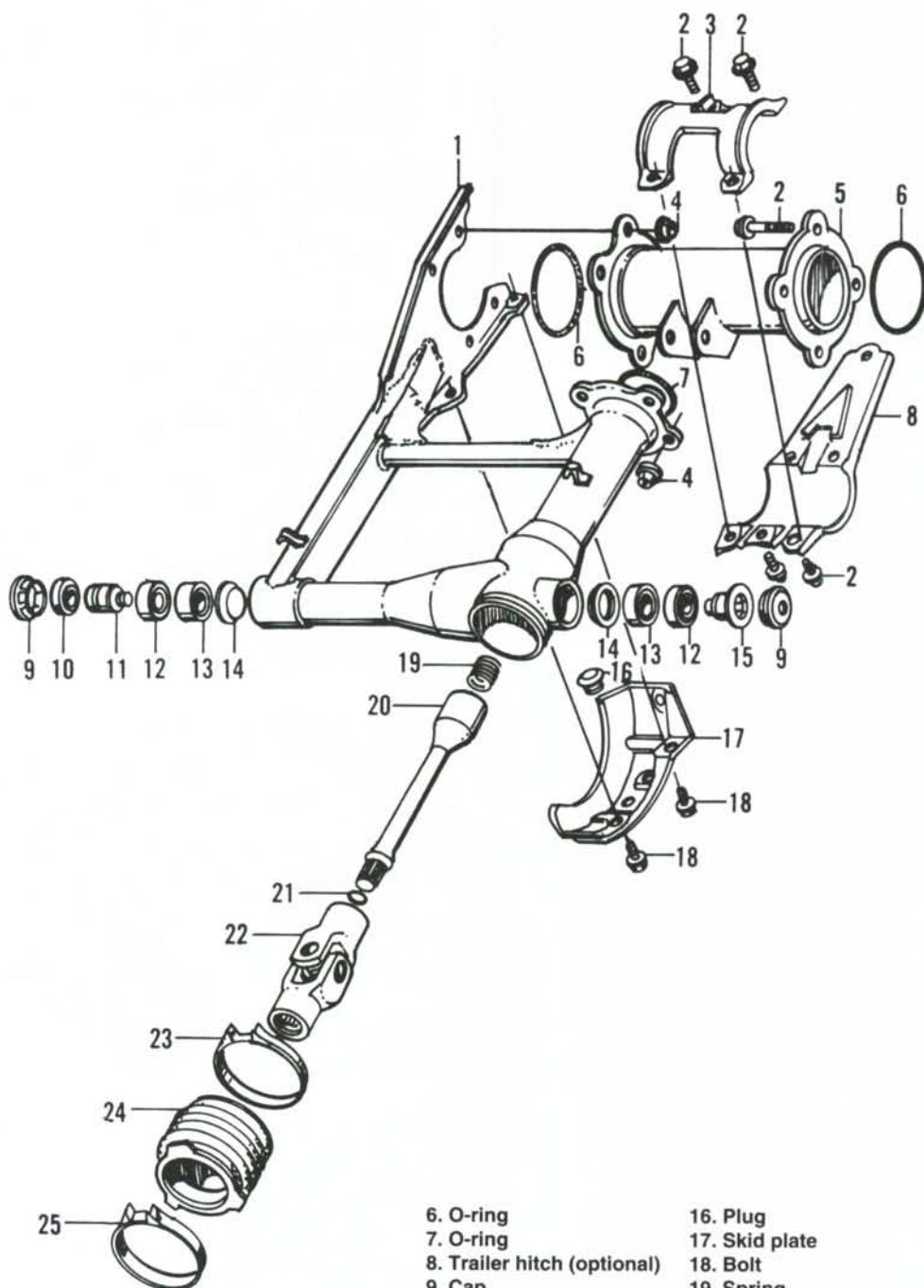
Disassembly/Inspection/Assembly

Refer to **Figure 50** for this procedure.



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SWING ARM



1. Swing arm	6. O-ring	16. Plug
2. Bolt	7. O-ring	17. Skid plate
3. Trailer hitch bracket (optional)	8. Trailer hitch (optional)	18. Bolt
4. Nut	9. Cap	19. Spring
5. Axle housing	10. Pivot nut	20. Drive shaft
	11. Pivot bolt	21. Stopper ring (1995 only)
	12. Dust seal	22. Universal joint
	13. Bearing	23. Clamp
	14. Grease holder	24. Rubber boot
	15. Pivot bolt	25. Clamp

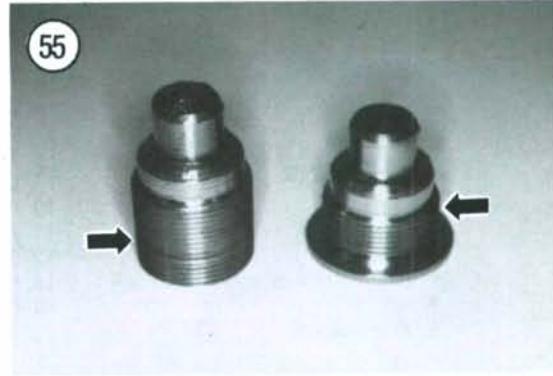
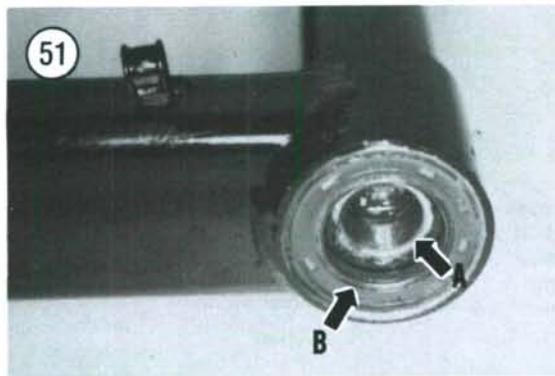
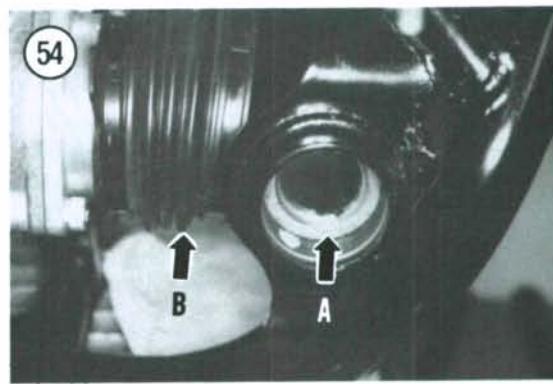
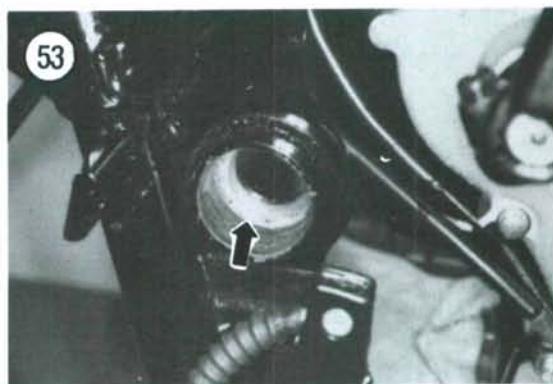
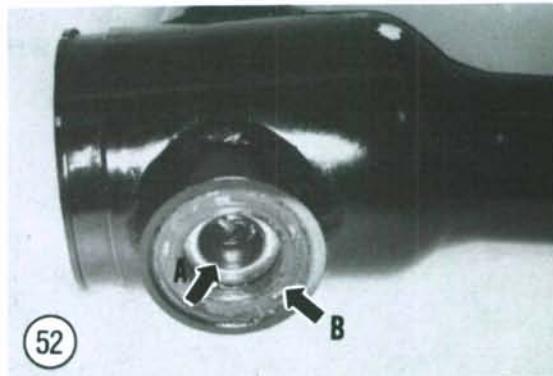
1. Remove the swing arm as described in this chapter.
2. Remove the drive shaft and universal joint assembly from the swing arm. Don't lose the spring in the final drive unit end of the drive shaft.
3. Wipe off any excess grease from the pivot bearings within each pivot area of the swing arm and frame and inspect them as follows:

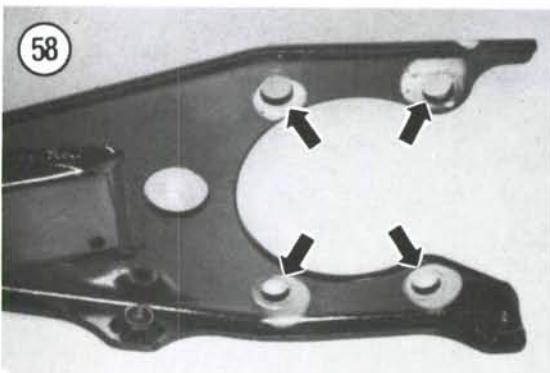
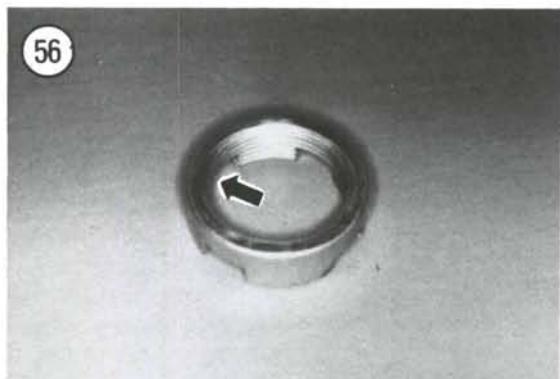
- a. The pivot bearings wear very slowly and wear is very difficult to measure.
- b. Turn each bearing with your fingers; make sure they rotate smoothly. Refer to A, **Figure 51** for the right-hand side and A, **Figure 52** for the left-hand side.

NOTE

Always replace both pivot bearings even though only one may be worn.

- c. Inspect the dust seal at each pivot point, replace if necessary. Refer to B, **Figure 51** for the right-hand side and B, **Figure 52** for the left-hand side.
- d. Inspect the pivot bolt receptacle in the right-hand (**Figure 53**) and the left-hand (A, **Figure 54**) of the frame for wear or damage.
4. If the swing arm pivot bearings need replacing, take the swing arm assembly to a dealer and have them perform the bearing replacement. The pivot bearing outer race must be pressed out and pressed back in with special tools.
5. Inspect the thread condition on both pivot bolts (**Figure 55**) and the locknut (**Figure 56**) for wear or damage. Replace if necessary.
6. Inspect all weld joints and all areas of the swing arm (**Figure 57**) for cracks or damage. Replace the swing arm if necessary.





7. Inspect the axle housing attachment bolt holes (**Figure 58**) on the swing arm for wear or hole elongation. If worn or damaged, replace the axle housing.

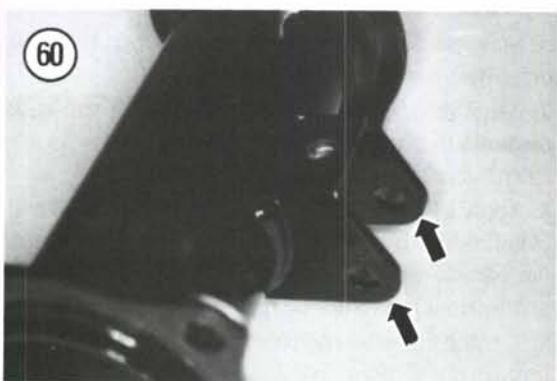
8. Inspect all weld joints and all areas of the axle housing (**Figure 59**) for cracks or damage. Replace the swing arm if necessary.

9. Inspect the shock absorber attachment points (**Figure 60**) on the axle housing. If worn or damaged, replace the axle housing.

10. Install a new O-ring seal (**Figure 61**) onto each end of the axle housing and onto the left-hand end of the swing arm (**Figure 62**). Coat the O-rings with fresh clean oil.

11. Inspect the drive shaft and universal joint as follows:

- a. Inspect the drive shaft and universal joint assembly for wear or damage (**Figure 63**).
- b. Check the pivot points (**Figure 64**) and the splines (**Figure 65**) of the universal joint for wear or damage.
- c. Check the drive shaft splines (**Figure 66**) for wear or damage.



- d. If any part of the drive shaft or universal joint is worn or damaged the assembly must be replaced as it cannot be serviced.

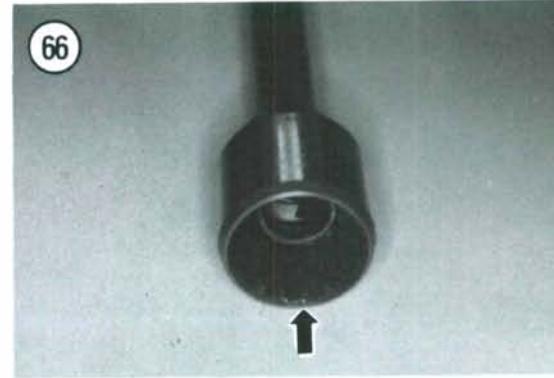
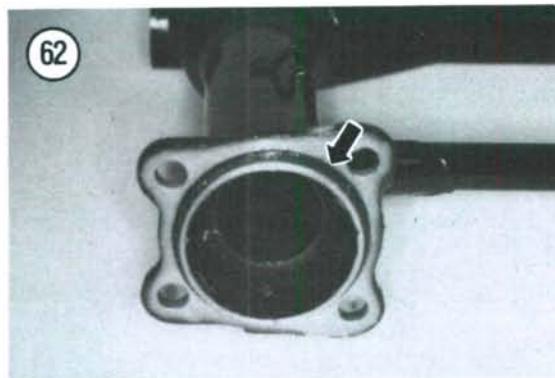
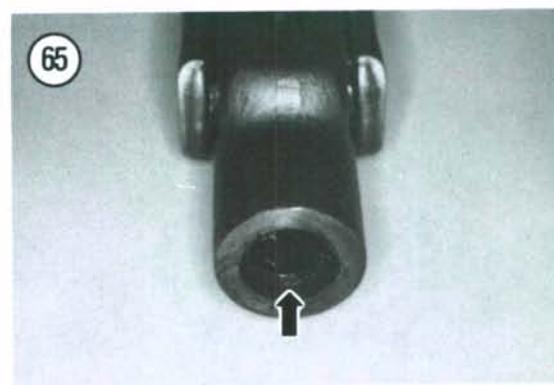
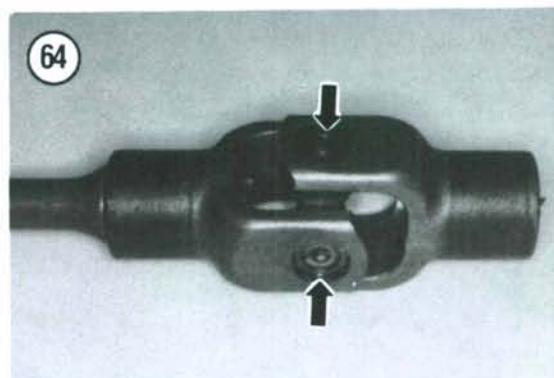
12. Inspect the rubber boot (B, **Figure 54**) for cuts, wear or damage; replace if necessary.

13. Coat both pivot bearings and each pivot area of the swing arm with molybdenum disulfide grease.

14. Install the swing arm as described in this chapter.

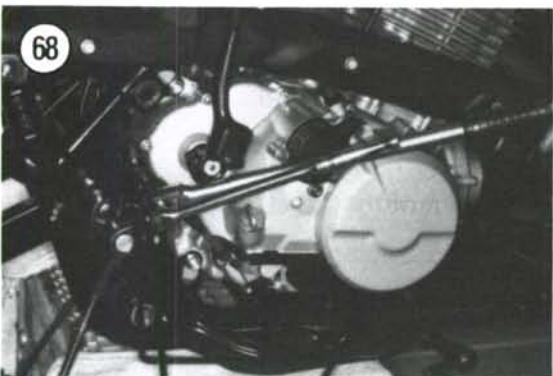
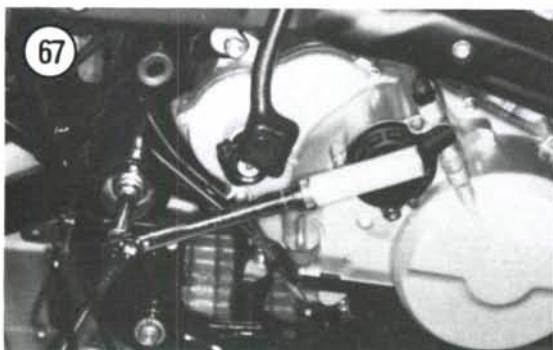
Installation

1. Make sure that all dust seals are in position. Refer to B, **Figure 51** for the right-hand side and B, **Figure 52** for the left-hand side.
2. Make sure the universal joint's rubber boot is installed on output gear housing on the engine.
3. Install the drive shaft assembly back into the swing arm.
4. Position the swing arm into the frame mounting area.
5. Align the splines of the universal joint with the splines of the output gear in the engine. If necessary, rotate the drive shaft until alignment is achieved, then push the drive shaft onto the output gear until it bottoms out.
6. Make sure the spring is still in place in the final drive unit end of the drive shaft.
7. Align the mounting holes in the swing arm with the holes in the frame. To help align the holes, insert a drift in from the left-hand side.
8. Apply a light coat of grease to both pivot bolts and install both pivot bolts. Be sure to install them into the correct side. The pivot combination pivot bolt and locknut goes into the right-hand side.
9. Tighten the left-hand pivot bolt (**Figure 48**) to the torque specification listed in **Table 2**.



CAUTION

The tightening torque on the right-hand pivot bolt is very minimal. Be sure to correctly read the specified torque specification in **Table 2** for this part. If



the pivot is overtightened, the swing arm and/or the bearing will be damaged.

10. Tighten the right-hand pivot bolt (**Figure 67**) to the torque specification listed in **Table 2**.
11. After both pivot bolts have been tightened to the correct torque specification, move the swing arm up and down several times to help seat the bearings.
12. Check the tightness and if necessary, retighten the right-hand pivot bolt to the torque specification listed in **Table 2**.
13. Install the right-hand pivot bolt locknut. Hold the right-hand pivot bolt with a 17 mm Allen wrench and using the same special tool used during removal; tighten the locknut (**Figure 68**) to the torque specification listed in **Table 2**. Do not allow the pivot bolt to move during this procedure or the bearing set-up will be disturbed.
14. Install the pivot bolt cap on each side.
15. Install the final drive unit and shock absorber unit as described in this chapter.
16. Move the universal joint's rubber boot onto the swing arm and tighten the clamping screws securely.
17. Install the shock absorber as described in this chapter.
18. Install the rear wheels as described in this chapter.
19. Install the rear fender as described in Chapter Thirteen.

Table 1 REAR SUSPENSION SPECIFICATIONS

Item	Specification	Wear limit
Rear axle runout	—	3.0 mm (0.12 in.)
Shock absorber free length 2-wheel drive 1988-1992	251.3-257.3 mm (9.89-10.13 in.)	248.8 mm (9.80 in.)
1993	241.6 mm (9.51 in.)	236.7 mm (9.32 in.)
4-wheel drive 1988-1992	253.0-259.0 mm (9.96-10.20 in.)	250.4 mm (9.86 in.)
1993-on	243.3 mm (9.58 in.)	238.4 mm (9.39 in.)

Table 2 REAR SUSPENSION TIGHTENING TORQUES

Item and Model	N·m	ft.-lb.
Rear wheel lug nuts	65	47
Rear axle hub nut		
1988-1992	100-120	72-87
1993-on	140-160	101-116
Rear axle nuts		
Inner nut	40	29
Outer nut	130	94
Final drive unit		
Final drive unit-to-rear axle bolts	50	36
Final drive unit-to-swing arm nuts	45	33
Final drive unit case bolts		
8 mm	26	19
10 mm	48	35
Shock absorber mounting bolts and nuts*		
Upper	45	33
Lower		
1988-1992	35	25
1993-on	45	33
Swing arm		
Left-hand pivot bolt	115	83
Right-hand pivot bolt	4	36 in.-lb.
Right-hand pivot bolt locknut	115	83

* A new fastener must be installed. Reusing an old fastener is strictly prohibited due to the loss of the fastener's locking ability.

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